

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

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APPLICANT: E. Welbergen
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GROUP: 2182
EXAMINER: Jasjit S. Vidwan
Customer No: 34758
Docket No. 0005294.0001
TITLE: System for Providing an Input
Signal Device for Use in Such
a System and Computer Input
Device

Confirmation No. 1140

APPEAL BRIEF

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee Hoverstop Holding BV.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

The status of claims is as follows:

Claims 1 – 15 are cancelled.

Claims 16 – 32 are rejected.

Claims 16 – 32 are appealed.

IV. STATUS OF AMENDMENTS

The latest amendment in this application was filed on August 29, 2007 and a Final Office Action was issued by the Patent Office on January 23, 2008 and it is this Final Action that is being appealed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The summary of the claimed subject matter defined in each of the claims involved in the appeal is outlined below.

Claim 16 is directed to a system for preventing the maintaining of a sustained cramped motionless position of a limb (§ 0006) comprising an element (§ 0026 – item 1 in the drawing) providing an input signal (§ 0015) controllable by a user through interaction with a user's limb disposed adjacent said element, timing means (§ 0033 – item 2) for determining the length of time when a limb is present and inactive, means (§ 0046 – mouse contains coupler) coupling the input signal to the timing means such that the timing means (§ 0033) is only started when no input signal is being generated and is reset every time an input signal is generated and means (§§ 0036 – visual; 0037 – tactile; and 0041 – audible) for generating an alarm signal to the user when said length of time exceeds a threshold value.

Claim 17 is directed to a system as set forth in Claim 16 in which there is included a sensor (§ 0031 – items 5, 6) capable of detecting the presence of a limb placed on or over at least a part of said element.

Claim 18 is directed to a system as set forth in Claim 17 in which the alarm signal comprises a tactile signal (§ 0037).

Claim 19 is directed to a system as set forth in Claim 18 in which the element mouse (§ 0006 element M) includes a member (§ 0038 – housing (item 1)) adjacent to the limb and disposed adjacent the member is a motor operated eccentric mass (§ 0038 – item 8) that vibrates the member to provide the tactile signal.

Claim 20 is directed to a system as set forth in Claim 19 in which the element comprises a mouse housing (§ 0038 – item 1) and the motor operated eccentric mass (§ 0038 – item 8) is located within the housing (item 1) to vibrate the housing, thus causing the tactile signal.

Claim 21 is directed to a system as set forth in Claims 16 or 17 in which the alarm signal has multiple settings (§§ 0043 and 0045) whereby the nature of the alarm signal changes if the presence of the limb continues to be detected after the alarm signal has initially been generated.

Claim 22 is directed to a system according to Claims 16 or 17 in which the alarm signal comprises means for generating a visual signal (§ 0036 – light emitting diode).

Claim 24 is directed to a system according to Claims 16 or 17 that includes a risk profile (§ 0049) defining an interaction between a limb and the controllable element but no input signal is being generated and means for generating the alarm signal if the nature of the interaction conforms to the risk profile.

Claim 25 is directed to a system according to Claim 24 including means for compiling and storing a record of the interaction between the user-controllable element and the user's limb and the generation of alarm signals and the generation of alarm signals over a period of time (§ 0050).

Claim 26 is directed to a device for providing an input signal comprising an element (§ 0026) controllable by a user by means of interaction with a user's limb, means for detecting activity of the user's limb (mouse) and means (§§ 0036 – visual; 0037 – tactile; and 0041 – audible) for generating an alarm signal to the user if no user activity is detected after for or during a period of user activity time.

Claim 27 is directed to a device according to Claim 26 in which the configuration of the device is adapted to allow the means for detecting activity of the user's limb to detect the activity of a user's limb placed on or over at least part of the element (§ 0011), and means (control means in the mouse including encoder 4 and processor 2) for communicating the signal representative of the detected activity to a controller (mouse) configured to generate the alarm signal if no user activity is detected after for or during a period of user activity time.

Claim 28 is directed to a computer input signal device comprising a mouse having a housing (1), a sensor (5,6) device disposed in said housing (1) capable of detecting the presence of a user's hand placed over a part of the housing, timing means (processor 2) for determining the length of time when the hand is present and inactive, means (§ 0046 – mouse contains coupler) coupling the input signal to the timing means such that the timing means is only started when no input signal is being generated and is reset every time an input signal is generated, means for generating an alarm signal (§§ 0036 – visual; 0037 – tactile; and 0041 – audible) if the time interval exceeds a threshold value.

Claim 29 is directed to a computer input device as set forth in Claim 28 in which the alarm signal consists of a motor driven offset weight (8) positioned to engage said housing (1) to vibrate same to indicate to the user that the hand should be moved relative to the housing (1).

Claim 30 is directed to a computer input device as set forth in Claim 28 in which the alarm signal comprises a visual signal (§ 0036).

Claim 31 is directed to a computer input device as set forth in Claim 28 in which the alarm signal comprises an audible signal (§ 0041).

Claim 32 is directed to a computer input device comprising a mouse (11), means (processor 2) within said mouse containing means (processor 2) for detecting user activity of said mouse and means (¶¶ 0036 – visual; 0037 – tactile; and 0041 – audible) for generating an alarm signal to the user if no user activity is detected after a preset period of time of no user activity.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1) Whether claims 16-18, 21-23, 26-28, 30-32 rejected under 35 U.S.C. §103(a) are unpatentable over Hesley et al, US Patent No. 6,489,947, and further in view of Casebolt et al, US Patent No. 6661,410 and further in view of Applicant's Admitted Prior Art.

2) Claims 19, 20 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hesley and Casebolt and further in view of Serpa, US Patent No. 6,587,091.

3) Claims 24 and 25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hesley and Casebolt and further in view of Gould et al, US Patent No. 6,065,138.

VII. ARGUMENT

For a clear understanding of the claimed subject matter on appeal a brief summary of the need the invention fills is in order.

The purpose of the applicant's invention is to make use of the fact that 'inactive' or 'passive' mouse use exists. During this inactive use, the user is maintaining a cramped motionless position on or over the mouse, without necessity. The mouse could be released, thus providing the muscles with much needed relaxation time, without losing any productive time, since the user wasn't actually doing anything with the mouse anyway. Research has shown that releasing the mouse frequently during passive use does not in any way impede or inhibit productivity. Task time as well as task quality remain unchanged.

It has been shown to be very difficult, if not impossible, for a user to remind himself to only grasp the mouse when actually using it and letting it go when it is 'inactive'. The user needs to be frequently reminded, trained, 'taught' or conditioned to do so. The purpose of the training system is to provide a signal to the user every time he is holding the mouse inactively, with the least possible disruption. After a certain amount of time, which will vary per person, the signal will become subliminal, as in not noticed anymore consciously. The user will automatically remove the hand upon receiving the signal.

For this conditioning to take place, it is absolutely essential that there is a direct coupling between the 'cause' and the 'result', being inactive mouse use and removing the hand after receiving the alarm signal, respectively.

Furthermore, before a discussion of the claim rejections it is important to this appeal to respond to the Examiner's "Response to Arguments" set forth on pages 2 and 3 of the final rejection.

It is respectfully suggested that the Examiner does not have a full understanding of applicant's invention and has based his rejections on a less than firm foundation.

Applicant's invention is directed to preventing the maintaining of a sustained cramped motionless position of a limb after an element such as a mouse has ceased being used, by signaling to the user that it has been in this position for a predetermined length of time and action should be taken to relieve the cramped position.

Examiner's discussion that the combination of teachings was primarily "for the sake of an effective power management system" is not relevant or applicable to applicant's claimed invention.

The balance of the sentence contained the aforementioned quote "that taught all the essential limitations of the claimed invention" is dealt with below.

It is the essence of applicant's position that the references cannot be combined in the manner suggested by the Examiner to find anticipation that will be discussed when dealing with the rejections portion of this brief.

The Examiner has also referred to what he calls a "potential secondary motivation" as exemplified by a 7 step process listed by the Appellant in the response to the previous Official Action.

The Examiner's mischaracterization of the 7 step process cannot go unanswered since it goes to the heart of Appellant's position. We regret that there may be some duplication of argument but it is essential that others reviewing the brief are aware of our belief that the Examiner's position is not built on a secure foundation.

It is not refuted that Repetitive Strain Injury can be caused by a limb being held immobile in a static cramped position for a long period of time.

However Appellant's invention relates to a system providing for a release of a cramped motionless position of a limb a predetermined time after the input device is no longer being actively utilized to generate input to a computer or the like. None of the references are directed to this very significant feature.

Reference is now made to the specific claim rejections.

Rejection of claims 16-18, 21-23, 26-28 and 30-32 under 35 U.S.C. §103(a) as being unpatentable over Hesley et al, US Patent No. 6,489,947 (hereinafter Hesley) and further in view of Applicant's Admitted Prior Art (see "Background of Invention" [hereinafter AAPR]).

While each of the aforementioned rejected claims vary in their breadth they all contain the essence of applicant's invention. Initial independent claim 18 is most representative of applicant's invention.

Appellant has no dispute with the statements contained in Sections 3 and 3a-3c as they relate to Hesley since they have been copied from the patent. As to the Examiner's reference to the Applicant's statement in the Background of the Invention that it is well known that RSI is associated with prolonged immobile use of computer mice, this is acknowledged. As to Sections 4-9, these repeat the features set forth in Casebolt which features have been accurately stated but none of these features are directed to measuring time after an input signal is no longer being generated and thus the combination of Hesley and Casebolt does not anticipate Appellant's invention.

The Examiner acknowledges that "Hesley does not expressly disclose starting the timer only when the hand is present yet inactive." This dismissal of the inadequacy of Hesley still begs the question. The incompleteness of Hesley is not merely that Hesley does not show this significant feature it does not contain the essence of Appellant's invention which is that the

starting of the timer to signal the user to move his limb from the cramped position occurs only after no input signal is being generated by Appellant's mouse or other signal generator. The Examiner is taking the position that a reference that merely discloses a mechanism for measuring when a limb is disposed adjacent a mouse or the like is what is missing and thus merely adding this feature to Hesley anticipates the claims under discussion.

The fallacy of the Examiner's position is that the "straw man" he has set up is that the only thing missing in Hesley is to show that it is obvious to measure the time a limb is close to a mouse. Since Casebolt, which does measure the time an inactive limb is located adjacent a mouse for effecting power saving, teaches what Hesley does not disclose and thus applicant's invention is anticipated. Such a combination is not Appellant's invention. Thus the application of the "obviousness" doctrine does not apply.

What Hesley fails to disclose and Casebolt does not teach is the timing of when the user's limb in a sustained cramped position after input signals are not generated and then generating an alarm signal to the user when the length of time exceeds a threshold value.

Casebolt is directed to power management and senses the presence of an object or body portion in contact with or close proximity to another object. While the Examiner is correct in his statement that the capacitive sensing aspects of Casebolt are not limited to power management it does not disclose the teaching lacking in Hesley as set forth above. Casebolt is directed to using proximity sensing means to switch between three or more power states. There is no teaching that the timing means for the proximity sensor is to start after an input device is no longer used to thereafter signal that the limb positioned relative to the input device should be repositioned to prevent RSI from occurring.

The failure of an asserted combination to teach or suggest each and every feature of a claim is fatal to an obviousness rejection under 35 U.S.C. §103. The necessary presence of all claim features is axiomatic, since the Supreme Court has long held that obviousness is a question of law based on underlying factual inquiries, including ascertaining the differences between the claimed invention and the prior art. *Graham v. John Deere, Co.* 383 U.S. 1, 148 USPQ 459 (1966).

The asserted combination of the patents to Hesley and Casebolt must teach or suggest each and every claim feature. See *In Re Royka*, 490 F.2nd 981, 180 USPQ 580 (CCPA 1974).

There must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness *KSR Int'l Technologies v. Teleflex Inc.* 1275 S.Ct 1727, 1741 (2007).

In sum it remains well settled law that obviousness requires at least a suggestion of all the features in a claim.

Rejection of Claims 19, 20 and 29 under 35 U.S.C. §103(a) as being unpatentable over Hesley and Casebolt and further in view of Serpa is in error and should be withdrawn.

The basic premise that Hesley and Casebolt are not combinable in the manner indicated fails for the reasons previously indicated. The features as set forth in these claims make for an additional patentable combination and while there is no dispute regarding what Serpa teaches, the total combination is clearly not anticipated and the claims are allowable.

The rejection of claims 24 and 25 under 35 U.S.C. §103(a) as being unpatentable over Hesley and Casebolt and further in view of Gould et al fails since the Hesley and Casebolt combination does not set forth the basic combination underlying the rejection of these claims and the features contained in these claims define a new combination. While Gould discloses

that which is discussed, those features when incorporated in the system containing other features results in a new and novel combinations.

If the Office has additional questions, please contact the undersigned at 312-521-2778.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jack Shore", is written over a horizontal line.

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VIII. CLAIMS APPENDIX

Claims 1-15 cancelled.

16. (Previously Presented) System for preventing the maintaining of a sustained cramped motionless position of a limb comprising an element providing an input signal controllable by a user through interaction with a user's limb disposed adjacent said element, timing means for determining the length of time when a limb is present and inactive, means coupling the input signal to the timing means such that the timing means is only started when no input signal is being generated and is reset every time an input signal is generated and means for generating an alarm signal to the user when said length of time exceeds a threshold value.

17. (Previously Presented) A system as set forth in Claim 16 in which there is included a sensor capable of detecting the presence of a limb placed on or over at least a part of said element.

18. (Previously Presented) A system as set forth in Claim 17 in which the alarm signal comprises a tactile signal.

19. (Previously Presented) A system as set forth in Claim 18 in which the element includes a member adjacent the limb and disposed adjacent the member is a motor operated eccentric mass that vibrates the member to provide the tactile signal.

20. (Previously Presented) A system as set forth in Claim 19 in which the element comprises a mouse housing and the motor operated eccentric mass is located within the housing to vibrate the housing, thus causing the tactile signal.

21. (Previously Presented) A system as set forth in Claims 16 or 17 in which the alarm signal has multiple settings whereby the nature of the alarm signal changes if the

presence of the limb continues to be detected after the alarm signal has initially been generated.

22. (Previously Presented) A system according to Claims 16 or 17 in which the alarm signal comprises means for generating an audible alarm.

23. (Previously Presented) A system according to Claims 16 or 17 in which the alarm signal comprises means for generating a visual signal.

24. (Previously Presented) A system according to Claims 16 or 17 that includes a risk profile defining an interaction between a limb and the controllable element wherein the limb is disposed adjacent to the controllable element but no input signal is being generated and means for generating the alarm signal if the nature of the interaction conforms to the risk profile.

25. (Previously Presented) A system according to Claim 24 including means for compiling and storing a record of the interaction between the user-controllable element and the users limb and the generation of alarm signals over a period of time.

26. (Previously Presented) A device for providing an input signal comprising an element controllable by a user by means of interaction with a user's limb, means for detecting activity of the user's limb and means for generating an alarm signal to the user if no user activity is detected after for or during a period of time.

27. (Previously Presented) A device according to Claim 26 in which the configuration of the device is adapted to allow the means for detecting activity of the user's limb to detect the activity of a user's limb placed on or over at least part of the element, and means for communicating the signal representative of the detected activity to a controller configured to generate the alarm signal if no user activity is detected after for or during a period of time.

28. (Previously Presented) A computer input signal device comprising a mouse having a housing, a sensor device disposed in said housing capable of detecting the presence of a users hand placed over a part of the housing, timing means for determining the length of time when the hand is present and inactive, means coupling the input signal to the timing means such that the timing means is only started when no input signal is being generated and is reset every time an input signal is generated and means for generating an alarm signal if the time interval exceeds a threshold value.

29. (Previously Presented) A computer input device as set forth in Claim 28 in which the alarm signal consists of a motor driven offset weight positioned to engage said housing to vibrate same to indicate to the user that the hand should be moved relative to the housing.

30. (Previously Presented) A computer input device as set forth in Claim 28 in which the alarm signal comprises a visual signal.

31. (Previously Presented) A computer input device as set forth in Claim 28 in which the alarm signal comprises an audible signal.

32. (Previously Presented) A computer input device comprising a mouse, means within said mouse containing means for detecting user activity of said mouse and means for generating an alarm signal to the user if no user activity is detected after a preset period of time of no user activity.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.

XI. LIST OF REFERENCES APPENDIX

Graham v. John Deere, Co. 383 U.S. 1, 148 USPQ 459 (1966)

In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)

KSR Int'l Technologies v. Teleflex Inc. 1275 S.Ct 1727, 1741 (2007).